U.S. Department of Interior
Bureau of Land Management
Roseburg District, Oregon

Environmental Assessment for the Swiftwater Field Office

Galagher Commercial Thinning
EA No. OR - 104 - 01 - 03

The Swiftwater Field Office proposes to do a commercial thinning harvest on approximately 94 acres of second growth forest in the Upper Umpqua River Watershed located in Section 9 of T24S R6W, W.M. This project is within the Matrix Land Use Allocation and is designed to help meet the Roseburg District's annual harvest commitment.

Acronyms Used:

ACS	-	Aquatic Conservation
BA	-	Biological Assessment
BLM	-	Bureau of Land Management
BMP	-	Best Management Practices
CWD	-	Coarse Woody Debris
EA	-	Environmental Assessment
FONSI	-	Finding Of No Significant Impact
FSEIS (SEIS)	-	Final Supplemental Environmental Impact Statement
FWS	-	U.S. Fish and Wildlife Service
GFMA	-	General Forest Management Area
LUA	-	Land Use Allocation
NEPA	-	National Environmental Protection Act
NFP	-	Northwest Forest Plan
NMFS	-	National Marine Fisheries Service
PDF	-	Project Design Features
RMP	-	Resources Management Plan
ROD	-	Record Of Decision (used only to refer to the NFP ROD)
S&G	-	Standards & Guidelines
T&E	-	Threatened or Endangered

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INTRODUCTION

This Environmental Assessment (EA) has been prepared for the Swiftwater Field Office's proposed **Galagher Commercial Thinning** which analyzes the affects of thinning on forest resources (particularly fisheries and T&E plants and animals) and the anticipated affects on resources beyond that already analyzed in the ROD and RMP. This EA is a site specific analysis of potential environmental impacts that could result with the implementation of a proposed action. The EA assists the Agency in project planning and insuring compliance with the National Environmental Protection Act (NEPA) and in making a determination as to whether any "significant" impacts could result from analyzed actions. "Significance" as defined by NEPA is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or "Finding of No Significant Impact" (FONSI). The FONSI is a document that briefly presents the reasons why implementation of the proposed action will not result in "significant" environmental impacts (effects) beyond those already addressed in the Roseburg District's *Final Environmental Impact Statement* (FEIS).

A Decision Document would be completed after the FONSI is signed to document the decision, however, Forest Management Regulation 43 CFR 5003.2 states that "[w]hen a decision is made to conduct an advertised timber sale, the notice of such sale shall constitute the decision document." This notice would be placed in *The News Review*, a daily newspaper of general circulation in Roseburg, Oregon and constitute a decision document with authority to implement the proposed action.

I. PURPOSE OF AND NEED FOR ACTION

This section provides a general overview of the proposed action. Included are: the need for the action, purpose of the action, a general description and objectives of the proposal, and conformance with existing land use plans.

A. <u>Need for Action</u>

The BLM has a need to implement the *Roseburg District Record of Decision and Resources Management Plan* (RMP). The RMP "responds to dual needs: the need for forest habitat and the need for forest products" (RMP, pg. 15). "The need for forest products . . . is . . . for a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies . . . on a predictable and long-term basis. The BLM also needs to offer for sale "Commercial thinnings . . . after developing stands reach a combination of stem diameter and surplus volume to permit an entry that is economical" (RMP, pg. 149). Silvicultural stand exams indicate that the stands identified in this project would benefit from a thinning at this time.

This need is accomplished by the following objectives:

1. For the Matrix portion:
   a. “Produce a sustainable supply of timber and other forest commodities " and “Provide connectivity . . . between late-successional reserves” (RMP, pg. 33).
   b. Improve stand health by reducing the excess stocking in the forest stand to increase the growth and vigor of the remaining individual trees (RMP, pg. 149).

2. Implement ecosystem management as outlined in the ROD and RMP.
   - Avoid damage to riparian ecosystems and meet the objectives of the "Aquatic Conservation Strategy" (S&G, pg. B-11; RMP pg. 19).
   - "Provide habitat for a variety of organisms associated with both late successional and younger forests." (RMP pg. 33).
   - Maintain "ecologically valuable structural components such as down logs, snags and large trees" (RMP pg. 33).
   - Improve and/or maintain soil productivity (RMP pg. 35).
   - "Maintain or enhance the fisheries potential of the streams . . . " (RMP pg. 40).
   - Protect, manage and conserve all special status and Supplemental Environmental Impact Statement special attention species habitat (RMP pg. 41).
   - “Improve existing culverts, bridges, and other stream crossings determined to pose a substantial risk to riparian conditions.” (RMP, pg. 73).

B. Purpose of Action

The purpose of the action described in this EA is to respond to the need to offer the **Galagher Commercial Thinning** Timber Sale for auction in fiscal year 2001 or later. This proposal would help meet the Roseburg District's annual harvest commitment or allowable sale quantity.

C. Description of the Proposal

The Swiftwater Field Office of the Bureau of Land Management (BLM) proposes to harvest timber in the Upper Umpqua River Watershed located in Sections 9; T24S, R6W, W.M. (see maps, Appendix A through C). The proposed project area is approximately 10 road miles northwest of Sutherlin and approximately 15 air miles northwest of Roseburg, Oregon. Approximately 300 acres were analyzed for potential harvest activities. New road construction and renovation or improvement of existing roads would also occur. Section II (pg. 3) of this EA provides a more detailed description of the Proposed Action Alternative.

D. Conformance with Existing Land Use Plans

The Proposed Action and all alternatives were developed to be in conformance with the *Final - Roseburg District Proposed Resource Management Plan / Environmental Impact Statement* (PRMP/EIS) dated October 1994 and its associated *Roseburg District Record of Decision and Resources Management Plan* (RMP) dated June 2, 1995, and the ROD and Standards &Guidelines for Amendments to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines dated January 2001. The RMP was written to be consistent with the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl* (FSEIS); dated Feb. 1994 and its associated *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (ROD) and *Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Related Species Within the Range of the Northern Spotted Owl* (S&G's) dated April 13, 1994; generally referred to as the "Northwest Forest Plan" (NFP). The ROD establishes management direction consisting of " . . . extensive Standards & Guidelines including land allocations, that comprise a comprehensive ecosystem management strategy" (ROD pg. 1).

This project is within the "Matrix" LUA. "Stands in the matrix can be managed for timber and other commodity production, and to perform an important role in maintaining biodiversity" (S&G, pg. B-6) by providing for biological legacies (snags, Coarse Woody Debris (CWD) and retention trees) that bridge past and future forests. The RMP further classifies the Matrix into two categories: the "General Forest Management Area" (GFMA); which are lands available for timber harvest and "Connectivity / Diversity Blocks" which are lands that are available for timber harvest and also provide connectivity between Late-Successional Reserves and Riparian Reserve. The Galagher Commercial Thinning is within the GFMA LUA.

II. ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE

This section describes the No Action and Action alternatives, and any alternatives considered but eliminated from detailed analysis. These alternatives represent a range of reasonable potential actions that would meet the Purpose and Need. This section also discusses specific design features that would be implemented under the action alternatives.

A. The No Action Alternative

The No Action Alternative is required by NEPA to provide a baseline for the comparison of the alternatives. This alternative represents the existing condition. If this alternative were selected there would be no harvesting of timber within the bounds of the project area. Only sporadic, crises-driven maintenance would be performed; this mainly for the sole purpose of keeping the roads open to traffic.

B. The Proposed Action Alternative

Implementation of the Proposed Action Alternative would result in the harvest of approximately 1870 CCF (hundred cubic feet) or 1.1 MMBF (million board feet) of the Roseburg District's FY 2001 harvest commitment of 7.0 MMCF (45 MMBF). A small amount of additional timber could potentially be included as a modification to this project. These additions would be limited to removal of individual trees or small groups of trees that are blown down, injured from logging, are a safety hazard, or trees needed to facilitate the Proposed Action (ex. guyline and tailhold trees, cable yarding corridor trees, or trees within the road construction prism). Harvest activities would occur on two units for approximately 94 acres of commercial thinning and 2 acres of road right-of-way clearcut. Other activities would include: temporary road construction, road renovation and improvement.

Approximately 1.37 miles (six spurs) of **temporary road construction** (roads built, used and decommissioned the same season) would occur on government land. Approximately 0.7 miles of this new construction is on old trail disturbances where widening and drainage improvements would be needed. Approximately 0.3 miles of BLM roads would have **road renovation** (restoring the road back to its original design). This would consist of installing or maintaining drainage structures (culverts and ditches) and reshaping the road surface. **Road decommissioning** - ". . . road segment . . . closed to vehicles on a long-term basis, but may be used again in the future. " (Western Oregon Transportation Management Plan [TMO], pg. 15) would occur on 1.37 miles of BLM road.

Timber harvest would consist of commercial thinning. **Commercial thinning** is designed to reduce the density of the forest stand in order to maintain stand vigor and increase wood quality, to promote increased growth on the remaining trees and recover wood fiber that would ordinarily be lost through natural mortality (RMP, pg. 149).

The Proposed Action would require a mix of skyline cable logging (approximately 94 acres or 98%) and ground based (tractor) logging (approximately 2 acres or 2%) of temporary road right-of-way. The Authorized Officer (Contract Administrator) may determine that additional isolated minor ground based logging would be necessary (ex. removal of guyline anchor trees, isolated portions of units, etc.). Up to ten acres were assumed in the analysis. **Firewood cutting and salvaging** of logging debris (slash) could occur in landing cull decks and near roads. The burning of **landing cull decks and slash piles** could occur as a means of reducing fire hazard.

C. Project Design Features and Management Practices as part of the Action Alternative

This section describes Project Design Features (PDF's) and management practices that would be incorporated as part of the action alternative to avoid or reduce environmental harm. PDF's are site specific measures, restrictions, requirements or physical structures included in the design of a project in order to reduce adverse environmental impacts. The RMP (Appendix D, pg. 129) lists "Best Management Practices (measures designed to protect water quality and soil productivity)

and "management actions/direction" (". . . the rules and limits governing actions, and the principles specifying the environmental conditions or levels to be achieved and maintained." [pg. 19]). Mitigating measures (measures designed to avoid, minimize or rectify impacts on resources [40 CFR 1508.20]) may also be incorporated with the implementation of the action alternatives.

1. **To meet the objectives of the "Aquatic Conservation Strategy (ACS)" (RMP, pg. 19):**
   a. **Riparian Reserves (Component #1)** were established. Riparian Reserves consist of lands incorporating permanently flowing (perennial) and seasonally flowing (intermittent) streams, the extent of unstable and potentially unstable areas that may directly impact streams, and wetlands. The RMP (pg. 24) specifies Riparian Reserve widths equal to the height of two site potential trees on each side of fish bearing streams and one site potential tree on each side of perennial or intermittent nonfish bearing streams. Data has been analyzed from District inventory plots and the height of a site potential tree for the Upper Umpqua River watershed has been determined to be the equivalent of 180 ft. therefore, Riparian Reserve boundaries would be approximately 180 ft. slope distance from the edge of non-fish bearing streams and 360 ft. from fish bearing streams in the project area (Draft - Revised Average 100- year Site Indices and Site Potential Tree Height by REO (5^{th} Field Watershed, Jan 17, 2001). No fish bearing streams were found in the project area adjacent to any Unit. No wetlands were found within the project area.

      1). Streambank stability and water temperature would be protected by maintaining the RMP prescribed Riparian Reserve along all streams.

      2). Riparian habitat would be protected from logging damage by directionally felling trees that are within 100' of the Riparian Reserve and yarding logs away from or parallel to the streams (i.e. logs would not be yarded across streams). No logging or road building would take place within the Riparian Reserves.

      3). No unstable or potentially unstable ground met the criterion for inclusion in the Riparian Reserve and were removed from the project.

   b. **Key Watersheds (ACS Component #2)** were established "as refugia . . . for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species [RMP, pg. 20]." This project is not in a Key Watershed.

   c. **Watershed Analysis (ACS Component #3)** for the Upper Umpqua River Watershed was used in this analysis and is available for public review at the Roseburg District office.

   d. **Watershed Restoration (ACS Component #4)** is not included as part of this project.

2. **To minimize soil erosion as a source of sedimentation to streams and to minimize soil productivity loss from soil compaction, loss of slope stability or loss of soil duff layer:**
   a. **Measures to limit soil erosion and sedimentation from roads** would consist of: (1) Maintaining or improving the existing road (Road No. 24-6-9.0) to fix drainage and erosion problems. This would consist of maintaining existing culverts, installing additional culverts and

outsloping the existing road. (2) Building, using and decommissioning temporary roads in the same operating season (i.e. no over-wintering of bare erodible subgrade). Spurs would be located at or near ridge tops (15 - 35 percent), outside riparian reserves. (3) Restricting road renovation and log hauling on unsurfaced roads to the dry season (normally May 15 to Oct. 15), however, operations would be suspended during periods of heavy precipitation. This season could be adjusted if conditions are such that no environmental damage would occur (e.g. the dry season extending beyond Oct. 15).

b. **Measures to limit soil erosion and sedimentation from logging** would consist of: (1) requiring skyline yarding where cable logging is specified. This method limits ground disturbance by requiring partial suspension during yarding (i.e., the use of a logging system that "suspends" the front end of the log during in-haul to the landing, thereby lessening the "plowing" action that disturbs the soil). Intermediate supports would be used where there are necessary. In some limited, isolated areas partial suspension may not be physically possible due to terrain or lateral yarding. Excessive soil furrowing would be hand waterbarred.

c. **Measures to limit soil compaction** (RMP, pg. 37) would limit right-of-way clearing to the dry season (May 15 to Oct. 15) when soils are least susceptible to compaction, however, operations would be suspended during periods of heavy precipitation if resource damage would occur. This season could be adjusted if conditions are such that no resource damage would occur (e.g., the dry season extending beyond Oct. 15). Incidental ground-based yarding would occur on slopes of 35 percent or less during the dry season. No blading would be permitted in skid trails.

e. **Measures to protect slope stability** would consist of locating new roads in stable locations and with proper drainage structures.

3. **To provide wildlife habitat components:**
   a. Future nesting and roosting habitat for cavity dwellers would be provided by reserving most existing hard or soft snags (at least 20" in diameter and 20 ft. in height) and old growth remnant trees that still remain from previous logging, except in the case of safety. Note: Any snag deemed as hazardous to worker safety could be felled at the discretion of the operator and the Sales Administrator. Such trees would be reserved and left in place as Coarse Woody Debris (CWD).

   b. All existing CWD (at least 16" in diameter and 16 ft. in length) would be reserved (RMP, pg. 38), except in the case of safety. This is in the form of blowdown trees and logs remaining from previous logging.

4. **To protect air quality:**
   Any burning of landing piles would have an approved “Burn Plan” and be conducted under the requirements of the Oregon Smoke Management Plan and done in a manner consistent with the requirements of the Clean Air Act.

5. **To protect and enhance stand diversity:**
   a. Mature and old growth remnant trees in the thinning units would be retained to the greatest extent possible as well as occasional defective (diseased) and deformed trees (trees with broken or multiple tops, and trees with ramicorn branches (large branch clusters)) that could provide future snags and nesting habitat.

   b. Snags and CWD would be reserved as described in paragraph three above.

6. **To prevent and report accidental spills of petroleum products or other hazardous materials:**
   Hazardous materials (particularly petroleum products) would be stored in durable containers and located so that any accidental spill would be contained. All landing trash, work site trash and logging materials would be removed. All equipment planned for instream work would be inspected beforehand for leaks. Accidental spills or discovery of the dumping of any hazardous materials would be reported to the Sale Administrator and the procedures outlined in the "Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan" would be followed.

7. **To contain and/or reduce the spread of noxious weeds:**
   Stipulations would be incorporated into the logging contract to prevent and/or control the spread of noxious weeds. This would include the cleaning of logging equipment prior to entry on BLM lands (BLM Manual 9015 - Integrated Weed Management) as well as roadside brushing prior to seed set.

8. **To protect the residual stand and promote stand health:**
   a. In the pruned areas, retain all the pruned trees that are dominant and co-dominant. A pruned tree would never be cut to release an un-pruned tree.

   Consider the logging operation when marking. Create space for trees to be felled and yarded safely, and minimize the potential for damage to retained trees. As much as possible anticipate the location of yarding corridors. Yarding corridors should be approximately 20 feet wide or less. Mark to allow trees to be felled towards yarding corridors, and don't mark leave trees inside yarding corridors. All trees within final yarding corridors must be cut. When trees that were marked for retention must be cut, a comparable tree should be marked to take its place.

   Within the un-pruned areas, mark trees for retention from all of the species present, but do not decrease the proportion of Douglas-fir. Favor Douglas-fir near landings and yarding corridors, where logging damage is harder to avoid. When two or more large trees are spaced less than 8 feet from one another it is likely that root graphs exist. Retain or remove the entire clump in an attempt to prevent the introduction of rot into retained trees through cut stumps. Retain large old remnant conifers and some large diameter hardwoods. Retain trees to protect snags and CWD whenever possible.

b. Felling and yarding would be done in a manner to protect the residual stand. No falling and yarding in the cable areas would be permitted from April 15 through July 15 when the sap is up in the trees and damage due to bark slippage could occur. This date could be adjusted based on local conditions (e.g. earlier or later than normal loose bark period).

c. Yarding systems would be designed to match yarder and cable size to the size of the timber in order to minimize damage from an overly large yarding system. Corridors for yarding would be pre-designated and approved by the Sale Administrator.

9. **To protect Special Status and SEIS Special Attention Plants and Animals:**
   a. Special Attention (Survey and Manage (S & M)) plant and animal sites would be protected according to established management recommendations (RMP, pg. 42).

   b. If, during implementation of the proposed action, any Special Status (threatened or endangered (T & E), proposed threatened or endangered, candidate, State listed, Bureau sensitive or Bureau assessment) species are found, evaluation for the appropriate type of mitigation needed for each species would be done. Stipulations would be placed in the contract to halt operations if any of these Special Status plants or animals are found to allow time to determine adequate protective measures before operations could resume.

10. **To protect cultural resources:**
    Stipulations would be placed in the contract to halt operations and evaluate the appropriate type of mitigation needed to provide adequate protection; if any objects of cultural value (e.g. historical or prehistorical ruins, graves, fossils or artifacts) are found during the implementation of the proposed action.

D. Alternatives Considered but Eliminated

There were no other alternatives considered during the formulation of this project.

III. AFFECTED ENVIRONMENT

This section describes the existing environment and forms a baseline for comparison of the effects created by the alternatives under consideration. This section does not attempt to describe in detail every resource within the proposed project area that could be impacted but only those resources which could be significantly impacted. Appendix F (Analysis File) contains data and supporting information that provides the basis for describing the affected environment.

This project lies within the Oregon Coast Range Physiographic Province. The FSEIS describes the affected environment for this province on page 3&4-21. The Roseburg District Proposed Resource Management Plan/Environmental Impact Statement (PRMP/EIS, pp. 3-3 through 3-71) provides a detailed description of BLM administered lands on the Roseburg District.

The proposed project areas are not known to be used by, or disproportionately used by, Native Americans, minorities or low-income populations for specific cultural activities, or at greater rates than the general population. According to 2000 Census data approximately six percent of the population of Douglas County was classified as minority status (*Oregonian*, Pg. A-12; March 15, 2001). It is estimated that approximately 15% of the county is below the poverty level (Frewing-Runyon, 1999).

A. General Setting

Stand Description - The predominant conifer species is Douglas-fir, which acts as a pioneer after a significant disturbance event such as fire. Conifer species in association include incense-cedar, western hemlock, western red cedar, white fir, and Pacific yew. Salal, Oregon grape and sword ferns are common on the forest floor. The plant association best describing these areas is a western hemlock or white fir with salal and Oregon grape. The timber cruise in the old growth stands cut under the Yellow Mountain sale show species composition of 87 percent Douglas-fir, with minor amounts of white fir, western hemlock, incense-cedar, and western red cedar.

Site Description - The Galagher Commercial Thinning project occurs within Yellow Creek drainage. This drainage is within the Upper Umpqua Watershed which covers approximately 169,476 acres. Current landscape patterns include natural stands that are the result of fire, managed stands established following timber harvest, and non-forested agricultural and pasture lands.

The Umpqua River has been identified as water quality limited. The headwaters of five second and third order unnamed streams drain the sale area. These streams drain into Yellow Creek. The geology is the sandstones and siltstones of the Tyee Formation (see Soil's Report, Appendix F).

B. Affected Resources

The affected area was surveyed for the resources listed below according to established protocols:

Botany - Thirteen Survey and Manage (S&M) bryophytes (*Buxbaumia viridis*) sites, twenty-nine S & M plants (*Chalciporus piperatus, Cantharellus subalbidus, Clavariadelphus ligula, Clavariadelphus trucatus, Gomphus clavatus, Gyromitra infula, Hydnum umbilicatum, Pithya vulgaris,* and *Tremiscus helvelloides*) as well as twenty-two undetermined plant species sites were found. There are some localized infestations of scotch broom, a noxious weed, in the project area.

Cultural Resources - No cultural resources were found in the project area.

Fisheries - There are no fish-bearing streams in the proposed project. According to the Elkton-Umpqua WA (1998), steelhead trout, coho and chinook salmon, cutthroat trout, Pacific lamprey, Umpqua and speckled dace, sculpin, redside shiner, Umpqua pikeminnow, and large scale sucker are present in the watershed. The Oregon Coast Coho has been designated as a threatened species under ESA.

Hydrology - The proposed project is located within the Upper Umpqua fifth-field watershed. Beneficial Uses of Water consists primarily of domestic water supply, irrigation and livestock watering, resident fish and aquatic life, and salmonid spawning and rearing. The Umpqua River has been identified as water quality limited for the parameters of temperature, dissolved oxygen, flow modification and fecal coliform.

Soils - Gentle to moderate (15 - 40 percent) stable slopes predominate the project area. Less than ten percent of the project area are on fragile (FGR)soils (in Unit 9B) of 65 to 85 percent (Timber Productivity Class FGR). Unit 9A has an extensive old skid trail system. Light to moderate compaction is typical on these trails.

Wildlife - Federally Threatened and Endangered (T&E) species known to occur in the Roseburg District include the northern spotted owl (*Strix occidentalis caurina*), marbled murrelet (*Brachyramphus marmoratus*), bald eagle (*Haliaeetus leucocephalus*), Columbian white-tailed deer (*Odocoileus virginianus*), Canada lynx (*Lynx canadensis*) and Fender's blue butterfly (*Icaricia icarioides fenderi*). The Northern spotted owl (NSO) was surveyed for and not found on the project area. There are 132 acres of suitable dispersal habitat within the project area. This project does not contain any Critical Habitat Units for the NSO. Critical Habitat is a specific geographical area specified by the US Fish and Wildlife Service (FWS) in Recovery Plans as containing habitat essential for the conservation of a Threatened and Endangered species. The proposed project falls within the 35-50 mile marbled murrelet zone 2. The habitat within 0.25 miles of the project area is in its second year of surveys- to be completed after August 5th, 2001. If marbled murrelets are detected, consultation on the effects of the timber sale to the marbled murrelet will be completed with the USFWS. There are no known bald eagle nests which could be affected by disturbance above ambient noise levels within 0.25 miles of any of the project areas. Canada lynx are associated with high elevation localities primarily east of the Cascade crest. The project area is located within the Coast Range- outside of the range of the Canada lynx. Fender's blue butterfly is co-dependent on the Kincaid's Lupine. The Kincaid's lupine is not known to occur in the project area. Therefore, without the lupine's presence, the butterfly would likely not be present on the project area. The remaining T&E species do not occur in the project area.

Survey and Manage Species One hundred and thirty-two (132) acres of suitable habitat (red tree vole (RTV)) are contained within the proposed sale units. Twelve active (12) RTV sites were found through surveys and would be protected in accordance with management guidelines.

IV. ENVIRONMENTAL CONSEQUENCES

This section provides the evidence and analytical basis for the comparisons of the alternatives. The probable environmental consequences (impacts, effects) to the human environment that each alternative would have on selected resources are described. This section is organized by the alternatives and the effects on any key issue identified in Appendix D, as well as the selected resources. Analysis considers the direct impacts (effects caused by the action and occurring at the same place and time), indirect impacts (effects caused by the action but occurring later in time and farther removed in distance) and cumulative impacts (effects of the action when

added to other past, present and reasonably foreseeable future actions) on the resource values. Appendix F (Analysis File) contains additional supporting information which provides the basis for this analysis. The EIS and FSEIS analyzes the environmental consequences in a broader context. This EA does not attempt to reanalyze impacts that have already been analyzed in these documents but rather to identify the particular site specific impacts that could reasonably occur. Environmental effects to the "Critical Elements of the Human Environment" is analyzed in Appendix D and E.

When encountering a gap in information, the question implicit in the Council on Environmental Quality regulations on incomplete and unavailable information was posed: Is this information "essential to a reasoned choice among the alternatives"? (40 CFR 1502.22(a)). While additional information would often add precision to estimates or better specify a relationship, the basic data and central relationships are sufficiently well established that any new information would not likely reverse or nullify understood relationships. Although new information would be welcome, no missing information was determined as essential for the decision maker to make a reasoned choice among the alternatives.

Riparian Reserves were excluded from this project to comply with recent court rulings. Excluding silvicultural density management would permit stands to differentiate in time through growth and mortality. Stands would self thin over time, increasing fire hazards and fuel loadings from ladder fuels and greater stand density. (See Appendix D, Issue #3.)

Botany - Direct effects are those actions that cause direct mortality of Special Status and SEIS Special Attention Plants such as ground disturbance or alteration of microclimatic conditions favorable to the sustained viability of plants. Indirect effects include possible spread of noxious weeds as the result of a management action.

Fisheries - Direct effects are those actions that cause direct mortality, such as accidental chemical spills and direct disturbance of redds. Generally, direct impacts occur from work within or adjacent to fish bearing streams. Indirect effects include increased sediment / turbidity and water temperature, altered stream flows and large woody inputs.

Hydrology - Direct effects are those actions that cause direct changes to the stream channel morphology, hydraulic geometry, or water quality. Indirect effects include changes in road densities routing runoff and transporting sediment, streamside shading, and large woody debris recruitment that effect hydrology and water quality.

Soils - Direct effects consists of those actions that cause a reduction in soil productivity such as compaction due to road construction or ground-based logging, soil loss through erosion of disturbed surfaces, displacement of soil through mechanical means (logging and road building) and alteration of the soil's nutrient, physical and biological properties through slash burning. The primary indirect effects is any harvest-related landslides or long-term erosion that might occur as a result of the action alternatives.

Wildlife - Direct effects consists of direct mortality or disturbance to species. Indirect effects include the alteration of habitat that would affect species.

A. No Action Alternative

The stands would continue to differentiate in time through growth and mortality. Mortality is expected to be due to competition between trees for growing space. The process of self thinning occurs only after most of the dominant trees are under competitive stress. Tall skinny trees are less likely to stand up in high winds and more likely to break under snow loads. Trees that have developed over long periods of competitive stress are slow to respond to improved growing conditions and may never attain potential growth rates. The large amount of dead wood expected to result from this alternative greatly increases the risk of stand damage as a result of fire. The Silvicultural Prescription (Appendix F) provides a more detailed stand description.

Botany - The direct effects to the stand would remain unchanged. Plant diversity, composition and viability would continue at present levels. Forest management activities would not alter microclimatic conditions favorable to the sustained viability of mid-seral vascular and non-vascular plants. There would be no indirect effects on the plant community in the project area. Now ground disturbance or canopy removal would occur.

Fisheries - The current stream temperature, sediment inputs, woody debris and hydrologic processes would continue to function at existing rates and levels. Fish populations would be expected to remain at existing levels. No direct effects to fish species or habitat would occur. Fish species and populations would remain unchanged. No indirect effects to fisheries are expected. Fish populations would be expected to remain at existing levels.

Hydrology - Direct effects of the No Action Alternative would be erosion and sedimentation continuing at very low levels. The unsurfaced 24-6-9.0 road would continue to supply sediment to two tributaries of Yellow Creek. The indirect effect of this alternative could be two log culverts of the 24-6-9.0 road, that are failing, do fail and send a bigger pulse of sediment into one of these two tributaries.

Soils - Direct effects of the No Action Alternative would be low potential for landslides on the steep FGR slope in unit 9B (7.5 ac.) Any landslides that do occur would likely be small and of low impact In-unit erosion would be very low. Unsurfaced road No. 24-6-9.0 would continue to have erosion and drainage problems. The Indirect effect of the No Action Alternative would be old compaction and exposed subsoil from previous logging operations would continue to heal slowly. There would be little change in soil productivity within road prisms.

Wildlife - The direct effects of harvest activities would not occur under this alternative. Wildlife populations and diversity would be expected to remain the same. The stand would progress naturally as a Douglas-fir monoculture. Canopy closure would cause a reduction in habitat for some species. Eventually, competition would cause tree mortality. The indirect effects include high canopy closure and the resultant competitive mortality creating snags and CWD. Existing structural features (i.e., snow breaks, forked tops, decay, etc) would be maintained, fostering the creation of nesting habitat. Dispersal capabilities of the stand would continue to increase.

B. Proposed Action Alternative

Because the Proposed Action Alternative in this EA proposes to commercially thin timber stands that are 30 to 40 years of age there would be no change in the amount or percentage of late-successional type forests on Federal lands within the Upper Umpqua Watershed.

Botany - Direct impacts consists of the temporary reduction of the canopy improving growing conditions for shade intolerant plant species. Shade tolerant species (e.g., *Buxbaumia viridis*) would have a reduction in favorable habitat. The Action Alternative potentially could adversely impact *B. viridis* or other S & M fungi species. The indirect effect of improved growing conditions for noxious weeds would occur. This would potentially increase the spread of noxious weeds in the project area.

Fisheries - No direct impacts are expected because no activity, with the exception of timber hauling, would occur within 180 feet of any stream. The haul route is along stable, well rocked roads. The probability of timber hauling causing direct mortality to fish would be inconsequential. All road construction would be temporary and on stable locations occurring more that 180 ft. from any drainage capable of transmitting effects downstream streams with fish. Indirect effects to fisheries habitat is difficult to quantify or measure. It is assumed that increased water temperature and turbidity, altered woody inputs and altered stream flows result in decreased fish production and negatively affect life history requirements. Water temperature and altered coarse woody inputs are closely linked to riparian habitat (PRMP/EIS, pg. 4-48). Stream temperature and coarse woody inputs would remain at existing levels because no activity would occur within 180 feet of riparian areas. Increased turbidity and sedimentation is generally related to the amount of ground disturbance, the distance of the disturbance from the stream channel, and the ability of sediment to travel from the disturbance to an active stream channel. No activities would occur that would have the potential to transmit sediment or effects to an active stream channel. Ground disturbing activities would occur outside of Riparian Reserves and only during the dry season. Altered stream flows result from increasing the drainage network primarily by increasing permanent roads and to a lesser extent from removing vegetation. No new permanent roads would be constructed. Removal of understory trees through thinning would result in minor increases in runoff, but the effects to stream flow would be inconsequential.

Hydrology - Direct effects of the Action Alternative would be minimal and the intent of ACS objectives 4 and 5 would be met due to temporary spurs being constructed at or near ridge tops and waterbarred. . Surface erosion would be minor and sedimentation would be eliminated because slopes are gentle to moderate, slash would slow flows, yarding would occur in the dry season, and any ground-based yarding would occur near the ridge tops on gentle slopes. The ongoing, indirect effects of this project would cause no changes in stream temperature, CWD, water pH, and dissolved oxygen. CWD recruitment would be delayed within the unthinned Riparian Reserve. The amount of sedimentation reaching streams attributed to hauling would be small since the main haul road is rocked or paved.

Soils - Erosion and sedimentation effects are covered under the hydrology section. The main Direct effects would be approximately one and a half acres of new road disturbance. Substantial long-term soil productivity loss would occur in about one acre of the new disturbance (primarily cut portions).

If incidental ground-based, tractor yarding occurs, trails would cover less than half an acre in Unit 9A. Substantial compaction is possible within the yarding trails, depending on the number of passes across the trail. The number of passes would be limited as much as possible. Compaction from these operations is expected to be shallow and largely in the topsoil, healing faster than compacted subsoil. If incidental ground-based shovel yarding using the swing method occurs, compaction would be minor. With tractor yarding, maintenance of the current level of soil productivity would likely be attainable at final harvest (if tractor yarding is not used in a second thinning) by the natural healing of compaction. A scattering of light superficial compaction (less than five inches deep) would occur in cable yarding corridors. The existing long-term soil productivity loss resulting from previous ground-based entries would remain the same where cable yarded. Subsoiling old compacted trails and primitive haul road segments would not occur during the proposed entry because of the high degree of scattering of substantial compaction and the interference of residual trees.

The indirect effects of thinning this project area would have roadbeds incurring compaction with each reentry. Fill slopes are expected to regenerate well.

Landslide risks associated with new spurs would be low. Although, seven and a half acres of FGR slopes in Unit 9B would have a slightly increased risk of shallow translational (parallel, downhill movement) landslides.

Wildlife - This action would result in the following direct and indirect impacts: T&E species - Harvest activities would occur within dispersal habitat of three known spotted owl activity centers (IDNOs 0691b, 1924, and 4516). Potential loss of 116 acres dispersal habitat for the NSO. SEIS Special Attention Species - The potential loss of habitat would also apply to the RTV and SEIS mollusks. The RTV would be managed in accordance with the Management Recommendations of the Northwest Forest Plan (IM OR-2000-086). Active sites would be protected with a minimum 10 acre habitat area. Dominant, codominant, and intermediate trees would not be removed within 180 feet of any active RTV nest tree, except in Unit 9A. Construction of a temporary road would require the removal of 5-6 trees within a buffer including some intermediate and codominant trees near the eastern edge of the buffer. Evaluation of the affected area indicates that the removal of these trees should not hinder the function of the site.

C. Cumulative Impacts Analysis

The following paragraphs discuss the cumulative impacts of the action. These impacts are described for federal lands in the FSEIS beginning on page 3&4-4 and throughout the chapter based on the resource affected. Unless otherwise noted, these effects are described in the context of the fifth-field watershed scale. There has been a continued conversion of late seral and old-growth habitat on private, industrial forest lands to early seral stages. Current management strategies on most of this private land would preclude the development of older seral conditions in the future.

Botany - The cumulative effects would include the increase of the distribution abundance of noxious weeds in the Yellow Creek drainage promoting the spread of noxious weeds on the district by increasing the available seed.

Fisheries - No new permanent roads or clear-cut acres would be added to the watershed. It is expected that regeneration harvest on federal lands will be reduced in the future. The proposed action would not increase the amount of permanent road or clear-cut acres and is not expected to have long term negative effects to fisheries.

Hydrology - Cumulative impacts to hydrology and water quality are measured as an increase in harvested acres and road miles within the watershed. This action may result in an unquantifiable but small and temporary increase in average annual peak stream flows due to the removal of part of the forest canopy and a small temporary input of sediment into streams from the use of existing haul roads. They would be inconsequential at the 5th field watershed scale. Hydrologic processes would improve and recover within ten years as the canopy returns to pre-treatment characteristics. No increase in the miles of permanent road would occur under the Preferred Alternative. The Action Alternative would have no effect on temperature, dissolved oxygen and pH in Yellow Creek because of the shade protection and sediment delivery prevention built into the design features. No habitat modification associated with streams and riparian vegetation would occur because of the establishment of Riparian Reserves.

Soils - Soil productivity loss, nearly all of which would be confined to 0.9 acres of the new spur construction in cut and roadbed, would be minor at fifth field scales. The losses in soil productivity associated with this sales would be offset by gains from the slow healing processes over the much larger body of BLM surface that was harvested in the past in the Upper Umpqua watershed. Most notable would be the healing of compaction and soil displacement in old ground-based harvest units.

Wildlife - The loss of habitat on private land is expected to continue as the land is managed on a rotation of approximately 60-80 years. NSO dispersal habitat on this land is likely to be maintained, but at some lower level.

V. CONTACTS, CONSULTATIONS, AND PREPARERS

A. Agencies, Organizations, and Persons Consulted

The Agency is required by law to consult with the following federal and state agencies (40 CFR 1502.25):

1. **Threatened and Endangered (T&E) Species Section 7 Consultation -** The Endangered Species Act of 1973 (ESA) requires consultation to ensure that any action that an Agency authorizes, funds or carries out is not likely to jeopardize the existence of any listed species or destroy or adversely modify critical habitat.

a. The required ESA consultation for T&E wildlife species was accomplished with the **United States Fish and Wildlife Service** (USFWS) and a letter of concurrence was received May 31, 2001. The Biological Assessment (BA) concluded the proposed action is not likely to pose an adverse affect to the spotted owl, murrelet, or bald eagle, and is not likely to adversely modify spotted owl or murrelet critical habitat. The USFWS concurs with the determination of ". . .not likely to adversely affect spotted owls, murrelets and their critical habitat. Incidental take is not expected with the actions described for this consultation." (May 31, 2001).

b. The required ESA consultation for T&E fisheries species was submitted to the **National Marine Fisheries Service** (NMFS) on June 18, 2001. The BA made the determination that this project would result in a "not likely to adversely affect" for the Oregon Coast coho salmon. A Letter of Concurrence is expected in mid-July.

2. **Cultural Resources Section 106 Consultation -** Consultation as required under Section 106 of the National Historic Preservation Act with the **State Historical Preservation Office** (SHPO) was completed on December 16, 1998 with a "No Effect" determination.

B. Public Notification

1. Notification was provided to affected **Tribal Governments** (Confederated Tribes of the Coos, Lower Umpqua and Siuslaw; Grande Ronde; Siletz; and the Cow Creek Band of Umpqua Indians). No comments were received.

2. The **general public** was notified via the *Roseburg District Planning Update* (Winter 1997-1998) going to approximately 150 addressees. These addressees consist of members of the public that have expressed an interest in Roseburg District BLM projects. Comments were received from Francis Eatherington representing Umpqua Watersheds, Inc. (see Appendix D - Issue Identification Summary).

3. Notification will also be provided to certain **State, County and local government** offices (see Appendix G - Public Contact).

4. A 30-day **public comment period** will be established for review of this EA. A Notice Of Availability will be published in the *News Review*. This EA and its associated documents will be sent to all parties who request them. If the decision is made to implement this project, a notice will be published in the *News Review*.

C. List of Preparers

Lyle Andrews	Management Rep.
Isaac Barner	Cultural Resources
Kevin Cleary	Fuels Management
Dan Cressy	Soils / Hydrology
Roger Ferriel	Botany
Liz Gaynor	Wildlife
Craig Holt	Project Lead / Layout Forester
Judy Hyde	Engineering
Al James	Silviculture
Garth Ross	Fisheries
Jeff Wall	EA Coordinator / EA Prep.

References Cited

Atzet, T. and L. A. McCrimmon, 1990. "Preliminary Plant Associations of the Southern Oregon Cascade Mountain Province".

Hann, D. and John A. Scrivani 1987. Dominant Height Growth and Site Index Evaluations for Douglas-fir and Ponderosa Pine in Southwest Oregon. Research Bulletin 59, Forest Research Lab, Oregon State University.

Hann, D. *et al*, 1995. Version 6.0 of the Organon growth model. Oregon State University.

Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington, USDA - Forest Service, June 1985.

O'Dell, T. E. 1999. Survey Protocols for Seven Protection Buffer Fungi Version 1.3 USDA and USDI, Portland, Oregon

RROD RMP, 1995. Roseburg District Record of Decision and Resource Management Plan, June 1995.

U.S. Departments of Agriculture and the Interior. 2001. Record of Decision (ROD) and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines. Portland OR.

U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, Bureau of Land Management. Feb. 1994. Final supplemental environmental impact statement on management of habitat for late-successional and old growth forest related species within the range of the northern spotted owl (FSEIS).

U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, Bureau of Land Management. January 2001. Record of decision and standards and guidelines for amendments to the survey and manage, protection buffer, and other mitigating measures standards and guidelines.

U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, Bureau of Land Management. April 13, 1994. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl (ROD) and standards and guidelines for management of habitat for late-successional and old growth related species within the range of the northern spotted owl (S&G).

U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior. 1996. Draft Management Recommendations for *Buxbaumia viridis*. Section 3 *In* Draft Management Recommendations for Bryophytes Installment 1. Portland, OR.

U.S. Department of Commerce, National Marine Fisheries Service. March 18, 1997. Biological opinion and conference opinion - implementation of land management plans (USFS) and resource management plans (BLM).

U.S. Department of the Interior, Bureau of Land Management. Dec. 2, 1992. Integrated weed management (BLM Manual 9015).

U.S. Department of the Interior, Bureau of Land Management. National environmental policy handbook (BLM Handbook H-1790-1)

U.S. Department of the Interior, Bureau of Land Management. 1985. Northwest area noxious weed control program environmental impact statement; and Supplement, 1987.

U.S. Department of the Interior, Bureau of Land Management. March 1999. Oregon State Office: Environmental justice screening in NEPA analysis for Oregon, Washington, and northern California

U.S. Department of the Interior, Bureau of Land Management. June 1996. Oregon State Office: Western Oregon transportation management plan.

U.S. Department of the Interior, Bureau of Land Management. Roseburg District: Roseburg District hazardous materials (HAZMAT) emergency response contingency plan (2001).

U.S. Department of the Interior, Bureau of Land Management. October 1994. Roseburg District: Final - Roseburg District Proposed Resources Management Plan / Environmental Impact Statement (PRMP/EIS).

U.S. Department of the Interior, Bureau of Land Management. June 2, 1995. Roseburg District: record of decision and resources management plan (RMP).

U.S. Department of the Interior, Fish and Wildlife Service. May 31, 2001. Letter of Concurrence on effects for determinations for FY 2001-2002 Programmatic Assessments for Activities Not Likely to Adversely Affect Listed Species (Ref: 1-15-00-I-270).

U.S. Department of the Interior, Fish and Wildlife Service. 1992b. Endangered and threatened wildlife and plants; determination of critical habitat for the northern spotted owl. Washington, D.C.: *Federal Register* 57:1796-1838.

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order. These resources or values are either not present or would not be affected by the proposed actions or alternatives, unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

Element	Responsible Position	Not Present	Not Affected	In Text	Initials	Date
Air Quality	Fuels Management Specialist					
Areas of Critical Environmental Concern	Environmental Specialist					
Cultural Resources	Archeologist					
Environmental Justice	Environmental Specialist					
Farm Lands (prime or unique)	Soil Scientist					
Flood Plains	Hydrologist					
Invasive, Nonnative Species	Botanist					
Native American Religious Concerns	Environmental Specialist					
Threatened or Endangered Species (fish)	Fisheries Biologist					
Threatened or Endangered Species (plants)	Botanist					
Threatened or Endangered Species (wildlife)	Wildlife Biologist					
Hazardous/Solid Wastes	District Hazardous Materials Coordinator					
Water Quality Drinking/Ground Water	Hydrologist					
Wetlands/Riparian Zones	Hydrologist					
Wild and Scenic Rivers	Recreation Planner					
Wilderness	Recreation Planner					

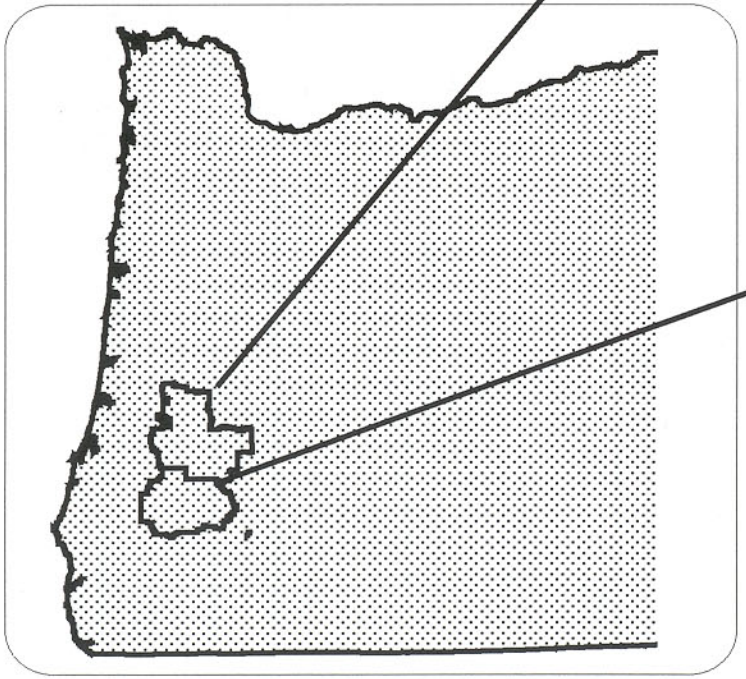
Appendix A

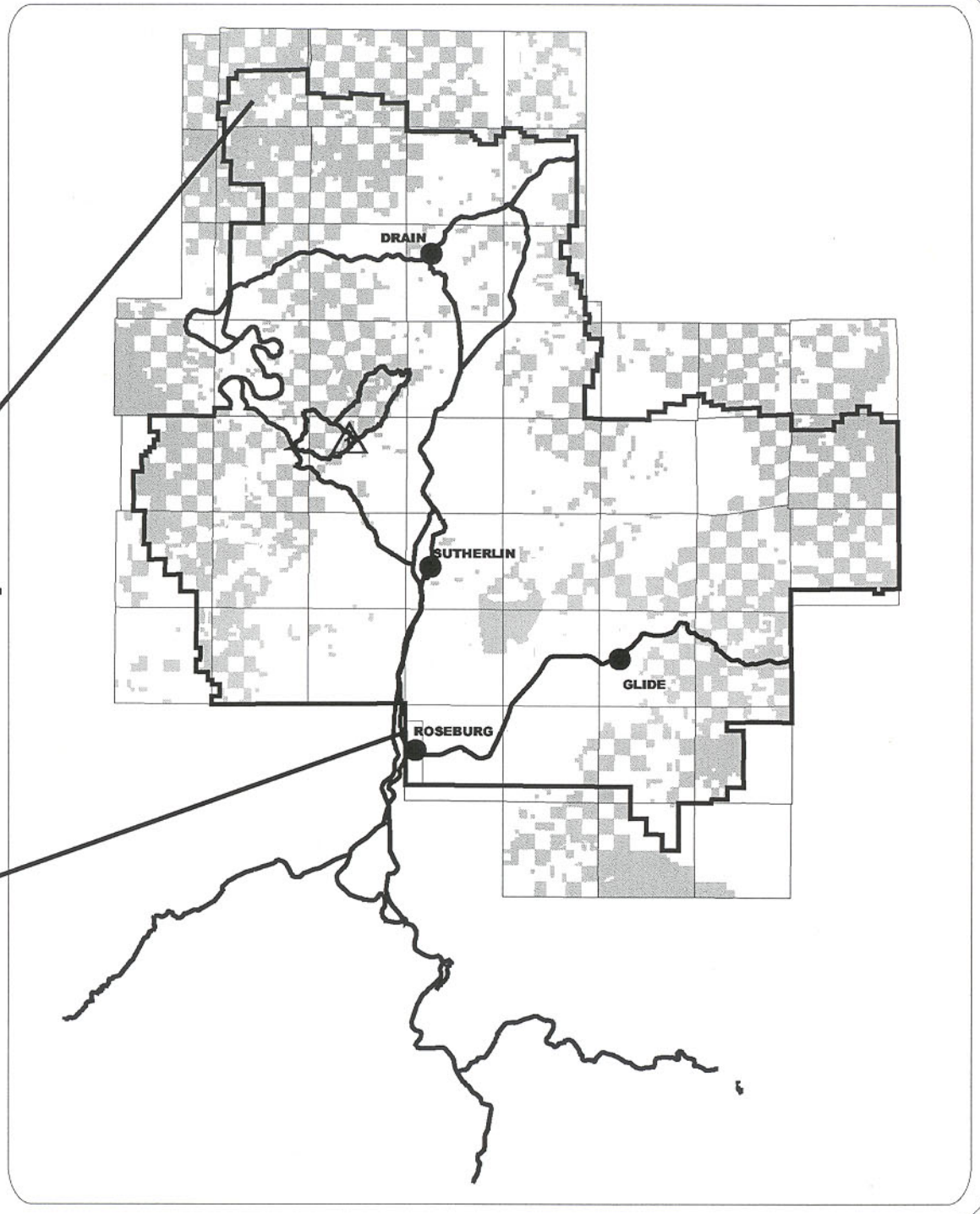
Vicinity Map

1 Galagher Commercial Thinning

Legend

- Major Oregon Highways
- Swiftwater Resource Area
- Towns

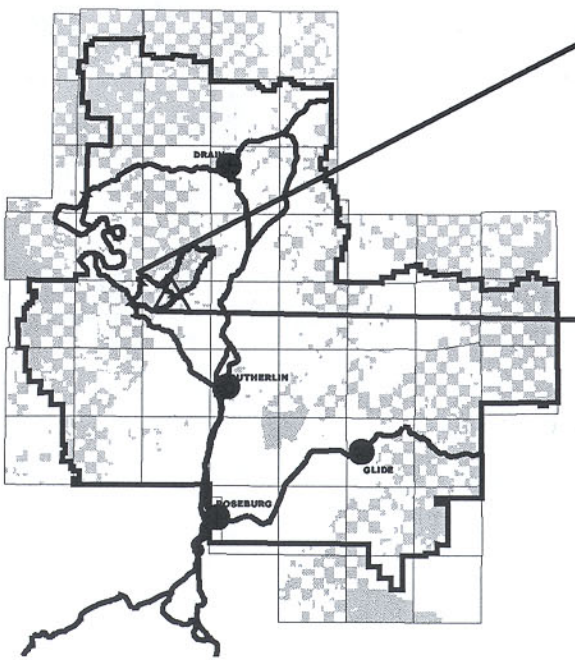


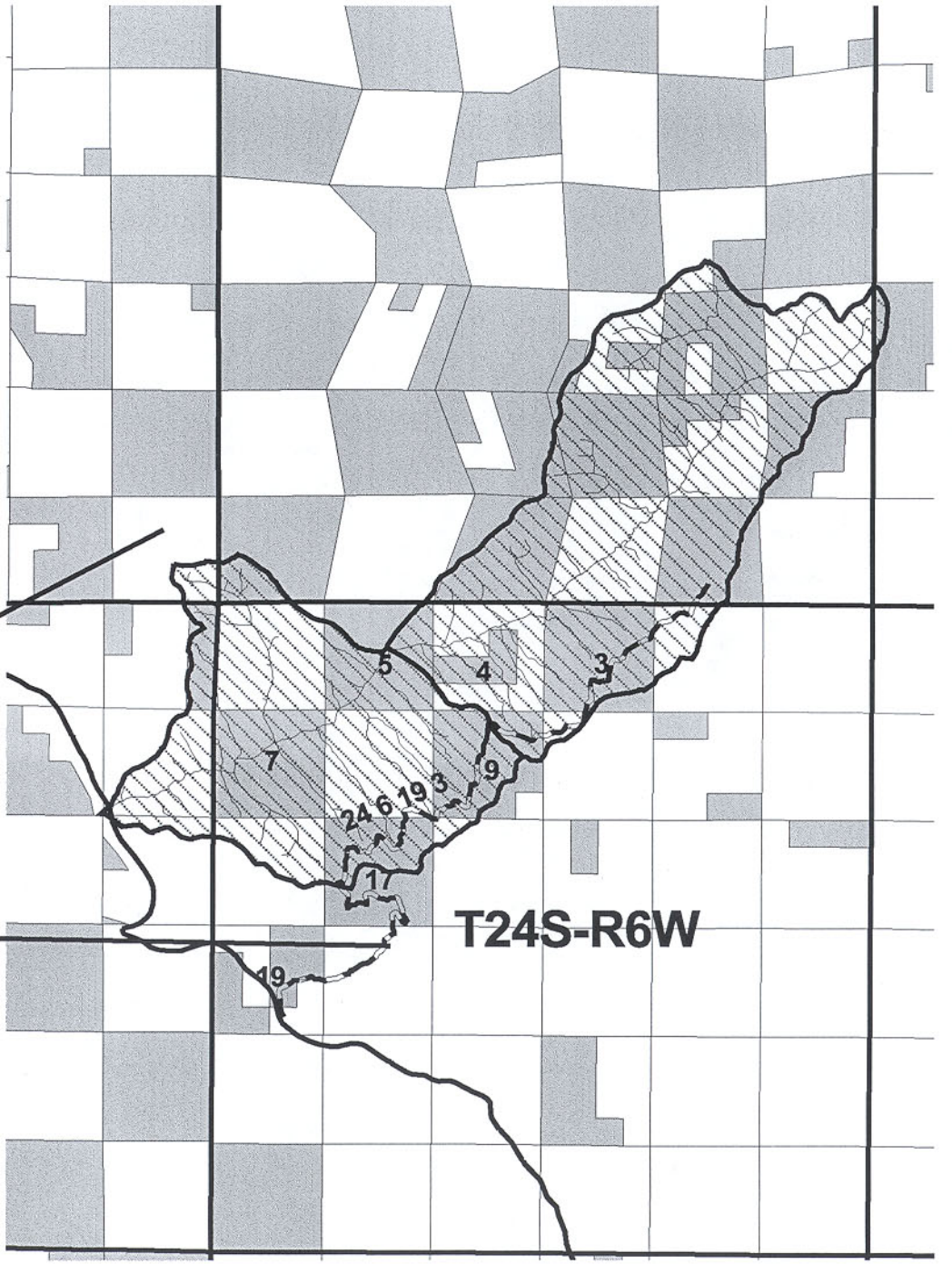


Appendix B

Tract Map

Galagher Commercial Thinning





APPENDIX C

INDIVIDUAL UNIT DESCRIPTION

Project Summary Table

EA Unit	Project Area	Acres	Yarding System (ac.)			Fuel Treat.	Remarks
			Aerial	Cable	Ground		
9A	1	80		OES (78)	ROW (<2)	P&BL	Expected ground yarding is related to road building.
9B	2	14		OES (14)	ROW (<1)	P&BL	
Total		94		92	2		

Yarding System

OES = Cable Yard, One End Suspension Required
ROW = Ground Based, Yarding of Road Right of Way Timber

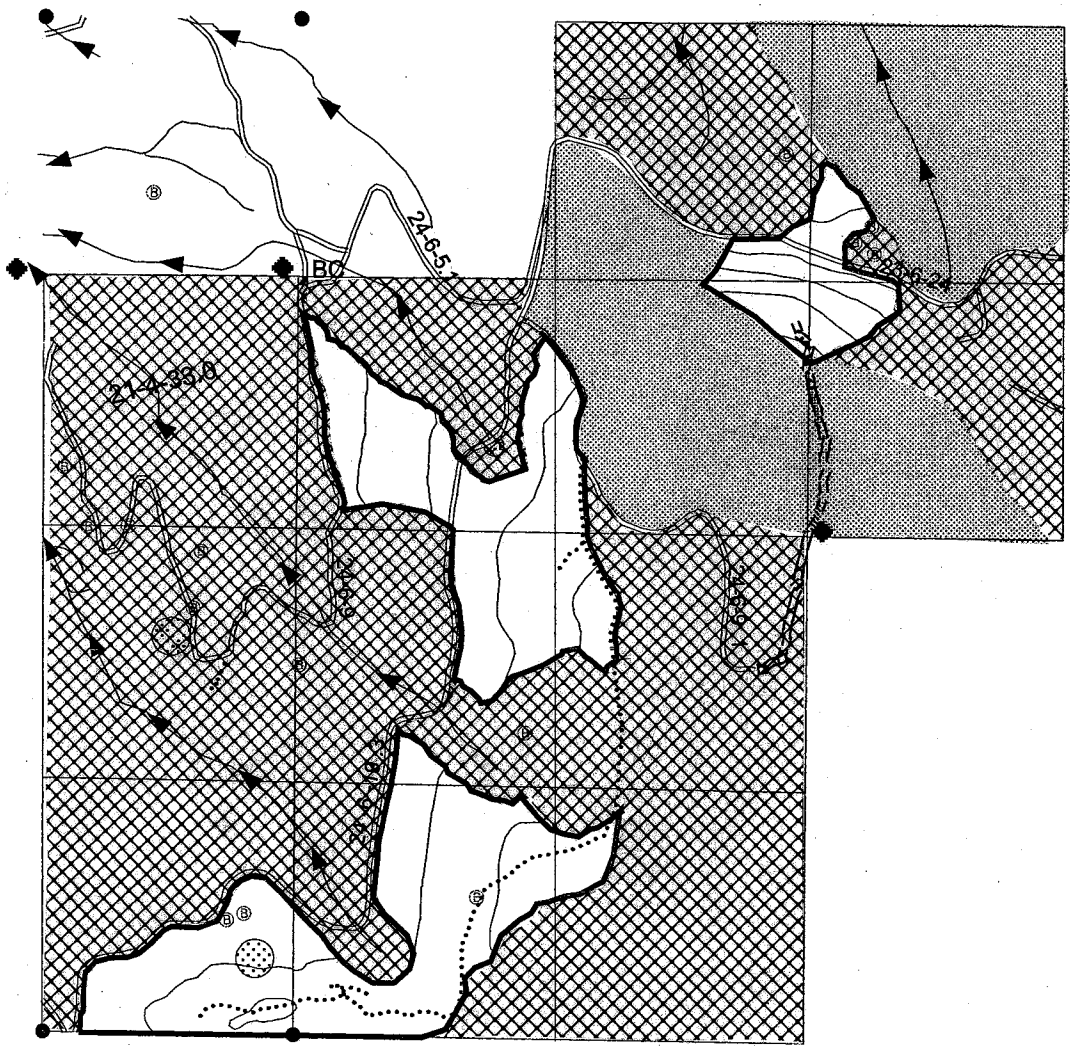
Fuel Treatment

P&BL = Pile and Burn Landings

Narrative Description of Sale Location:

From I-5, Exit 136 in Sutherlin, proceed west on State Highway 138, approximately 10 miles, to BLM Road # 24-6-19.3. Follow the 19.3 road for approximately 5 miles to Section 9. From this point, follow the Exhibit B map to the sale area.

GALAGHER COMMERCIAL THINNING



LEGEND

Scale: 1" = 1000 ft

- Commercial Thinning Area
- Reserve Area
- Reserve Area Previous Sale
- Stream
- Wet Area
- Found Corner
- Road to be Renovated
- = = = = Temporary Spur To Be Constructed
- Boundary of Cutting Area
- Boundary of Contract Area

Map Date: 6/4/01

APPENDIX D

ISSUE IDENTIFICATION SUMMARY

This appendix summarizes the issues that were identified pertinent to this project. No further analysis was deemed necessary in that the mitigations called for were considered adequate to remove the issue from needing to be analyzed in the main body of the EA.

A. Issues Identified During Project Design

The following issues were identified during project design. These issues arose from Specialist input as well as public comments that were received. A given issue can be eliminated from further analysis for one or more of the following reasons: (1) it is beyond the scope of this analysis, (2) the impacts were anticipated and analyzed in the FEIS, (3) Project Design Feature's (PDF's) included in the preferred alternative would be adopted to mitigate the anticipated environmental impacts of specific activities, and (4) the issue does not meet the objectives and purpose of the project. Section II, paragraph C (pg. 4) provides a list of specific PDF's incorporated into the preferred alternative to deal with these issues.

Issue #1: The project should be designed so as to result in a "No Effect" (NE) or "Not Likely to Adversely Affect" (NLAA) Biological Opinion from the NMFS.

Discussion: Due to the ruling of the U.S. District Court in Seattle (September 29, 1999), NMFS Biological Opinions have been ruled as invalid and any project would not be consulted by NMFS unless it would result in a NE or NLAA effects determination.

Mitigation:
1. No harvesting in Riparian Reserves.
2. No permanent road construction.
3. No activities (such as culvert replacement) would occur within stream channels.

Public Issues:

No comments were received from public entities during the issue identification opportunity provided during the preparation of this EA.

Issue #2: SEIS Special Status Species: Red Tree Vole

Discussion: Confirmation of active Red Tree Vole nest sites requires a minimum protected area of ten acres for habitat.

Mitigation: Approximately 85 acres of habitat area was withdrawn from the project. Portions of units 9A, 9B, and 9C were removed from consideration. Units 9C and 19A were also removed from consideration. The proposed temporary road in unit 9A was moved to accommodate protection protocols.

Rationale: The RMP and ROD requires project areas be surveyed for Survey and Manage species prior to activities (RMP, Appendix H, pg. 185; S&G's, Table C-3, pg. C-60). Red tree voles sites will be managed in accordance with Management Recommendations for Oregon Red Tree Vole, *Arborimus longicaudus*, version 2.0. (IM OR-2000-086).

Issue #3: Silvicultural Density Management

Discussion: ACS Objective #8 states "Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulations, nutrient filtering, appropriate rates of surface erosion, bank erosion and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability" (S & Gs, pg. B-11). Allowing growth rates to slow down excessively (i.e., creating Riparian Reserves having smaller trees and homogeneous) would not meet this ACS Objective. Furthermore, mortality due to self thinning would lead to heavy fuel loads and fuel ladders increasing higher risk for wildfire. These same conditions would be expected if trees would be girdled, leaving them to die. Self thinning would still occur over most of the stand unless nearly as many trees are girdled that would have been cut.

Mitigation: Although ACS objectives would not be met at the site level, there would be no significant differences at the 5th Field level. Therefore, mitigation would not be necessary.

Rationale: Judge Rothstein has ruled and the Ninth Circuit Court has affirmed that ACS Objectives must be met at the site level. The effect of cutting and logging in the Riparian Reserve is considered as not meeting ACS Objectives

B. Issues Specified by Regulation

"Critical Elements of the Human Environment" is a list of elements specified in BLM Handbook H-1790-1 that must be considered in all EA's. These are elements of the human environment subject to requirements specified in statute, regulation, or Executive Order. These elements are as follows:

1. Air Quality
2. Areas of Critical Environmental Concern (ACEC)
3. Cultural Resources
4. Environmental Justice
5. Farm Lands (prime or unique)
6. Floodplains
7. Invasive, Nonnative Species
8. Native American Religious Concerns
9. Threatened or Endangered Species
10. Wastes, Hazardous or Solid
11. Water Quality, Drinking / Ground
12. Wetlands / Riparian Zones
13. Wild and Scenic Rivers
14. Wilderness

These resources or values (except item #9) were not identified as issues to be analyzed because: (1) the resource or value does not exist in the analysis area, or (2) no site specific impacts were identified, or (3) the impacts were considered sufficiently mitigated through adherence to the NFP S&G's and RMP Management Actions/Direction therefore eliminating the element as an issue of concern. These issues are also briefly discussed in Appendix E ("Critical Elements of the Human Environment"). Item #9 is addressed in the Specialist's Reports (Appendix F) and the Biological Assessment which is prepared for consultation required by the Endangered Species Act.

C. Issues to be Analyzed

The Interdisciplinary Team did not identify any issues as having sufficient potential affect that would warrant detailed analysis as a key issue to be addressed in section IV, “Environmental Consequences”.

APPENDIX E

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

Element	Relevant Authority	Environmental Effect
Air Quality	The Clean Air Act (as amended)	Temporary smoke intrusion into populated areas is possible but not likely. Dust particles may be released into airshed as a result of road construction /renovation and timber hauling.
Areas of Critical Environmental Concern	Federal Land Policy and Management Act of 1976 (FLPMA)	Project area is not within or near a designated or candidate ACEC
Cultural Resources	National Historic Preservation Act (as amended)	**"No Effect"** - See SHPO Report 1/04/99
Environmental Justice	E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Minority and low-income populations would not be adversely or disproportionally effected by this action.
Farm Lands (prime or unique)	Surface Mining Control and Reclamation Act of 1977	"No discernable effects are anticipated" (PRMP pg. 1-7).
Floodplains	E.O. 11988, as amended, Floodplain Management, 5/24/77	Project is not within 100 year floodplain.
Invasive, Nonnative Species	Lacey Act (as amended) Federal Noxious Weed Act of 1974 (as amended) Endangered Species Act of 1973 (as amended) E.O. 13112, Invasive Species, 2/3/99	"The consequences of incorporating these proposed mitigation measures into the proposed project would likely reduce the probability of spreading noxious weeds ..." (Specialist Report 4/18/01)
Native American Religious Concerns	American Indian Religious Freedom Act of 1978	No concerns were noted as the result of public contact.

Element	Relevant Authority	Environmental Effect
Threatened or Endangered Species	Endangered Species Act of 1973 (as amended) The Pacific Coast Recovery Plan for the American Peregrine Falcon, 1982 Columbian White-tailed Deer Recovery Plan, 1983 Recovery Plan for the Pacific Bald Eagle, 1986 Recovery Plan for the Marbled Murrelet, 1997 Biological Opinion and Conference Opinion - Implementation of Land and Resource Plans (USFS) and Resource Management Plans (BLM), March 18, 1997 [NMFS]	**Botanical** - No T&E species noted (Specialist Reports 4/18/01). **Fish** - "Not likely to adversely affect Oregon Coast coho salmon" (Biological Assessment). **Wildlife** - Not likely to pose an adverse affect to of the spotted owl, murrelet, or bald eagle and is not likely to adversely modify spotted owl or murrelet critical habitat. (Letter of Concurrence, 5/31/01). T&E species not specifically mentioned do not exist in the analysis area.
Wastes, Hazardous or Solid	Resource Conservation and Recovery Act of 1976, as amended Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended	Applicable HazMat policies would be in effect. HAZMAT Level 1 Site Survey indicates no hazardous materials within the project area.
Water Quality, Drinking / Ground	Safe Drinking Water Act as amended Clean Water Act of 1977	Project is not in a municipal watershed or near a domestic water source.
Wetlands/Riparian Zones	E.O. 11990, Protection of Wetlands, 5/24/77	"The selected alternative [of the FEIS] complies with [E.O. 11990]..."(ROD p. 51, para.7)
Wild and Scenic Rivers	Wild and Scenic Rivers Act (as amended) The North Umpqua Wild and Scenic River Plan (July 1992)	Project is not within the North Umpqua Scenic River corridor.
Wilderness	Federal Land Policy and Management Act of 1976 Wilderness Act of 1964	"There are no lands in the Roseburg District which are eligible as Wilderness Study Areas." (RMP pg. 54)

OTHER RESOURCES CONSIDERED

Resource	Environmental Effect / Concerns
Land Use (leases, grazing , domestic water use, etc.)	Project has no conflicting land uses (Specialist's Report 6/04/01). Roads are encumbered under Right-of-Way Agreement # R-589 (Haines) and # R-735 (Ford).
Minerals	Project has no mining claims (Specialist's Report 7/02/01).
Recreation	The proposed Timber Sale is not located in the vicinity of any recreation sites.
Visual	The project areas are classified VRM IV [(least restrictive category]". This classification allows for management activities. The level of change to the characteristic landscape can be high. Every attempt should be made to minimize impacts, disturbances, and the repetition of basic elements.
Other (Adjacent Landowners)	Three large adjacent landowners are in the vicinity of this sale.